

POTWs and the Regulatory World Pesticides

Pyrethroid Forum

April 30, 2007

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Overview

- Definitions
- POTWs in California
- What is Tri-TAC?
- Who Regulates POTWs?
- Wastewater treatment processes
- How pesticides reach POTWs
- Regulations governing POTWs
- Why do POTWs care about pesticides?
- Tri-TAC Success Stories
- What do POTWs want?

Definitions

- Wastewater Treatment Plants
- Publicly Owned Treatment Works
- Collection Systems
- Clean Water Act
 - NPDES Permits
- Porter Cologne Act
 - Waste Discharge Requirements
- Reasonable Potential
- Total Maximum Daily Load (TMDL)

POTWs in California

- ~180 POTWs in California
- Collectively treat approximately 2 billion gallons of wastewater/day
- Collection point for society's waste

What is Tri-TAC?

- Formed in the 1970s
- Goal:
 - Improve “the overall effectiveness and accountability of environmental programs that impact POTWs in California.”
- Represents POTWs via its three sponsoring organizations:
 - League of California Cities (478 cities)
 - California Association of Sanitation Agencies (115 member agencies)
 - California Water Environment Association (>8,000 members)
- Constituents include representatives from most of the sewer population in California
- Monthly Meetings – Air, Land, and Water Committees
- www.tritac.org

Who Regulates POTWs

- The Short Answer is EVERYBODY!
- A Board Member at one of the EBDA Agencies asked, "How many regulations do we have to comply with?"
- Answer: ALL OF THEM!

State and Regional Water Boards

- Statewide Policies
 - Ocean Plan
 - Enclosed Bays and Estuaries Plan
 - Water Recycling Policy
- Biosolids Waste Discharge Requirement
- Sanitary Sewer Overflow WDR
- Operator Certification
- Regional Water Boards
 - NPDES Permits
 - Enforcement

Variations among POTWs

- Coverage area
 - Size of area
 - Types and size of dischargers within coverage area
 - Industrial
 - Commercial
 - Residential
- Receiving waters
 - Ocean
 - Lakes
 - Streams
 - Percolation (arid areas and Central Valley)
- Method and degree of treatment



Bay Area



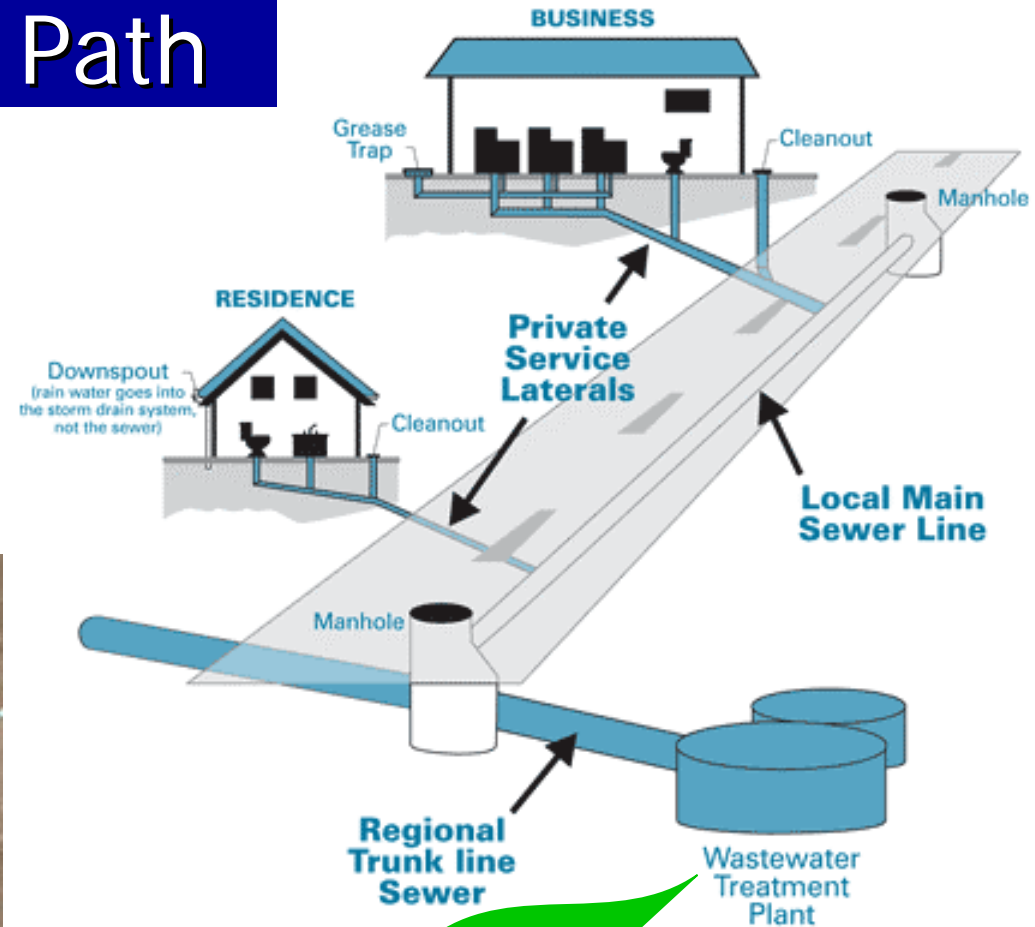
Outfall

Publicly Owned Treatment Works

- Collect and treat wastewater from the service area
- Use physical, biological, and chemical processes to remove inorganic and organic materials from the wastewater
- Discharge Treated Wastewater
 - Effluent must meet Permit Requirements based on Receiving Water Beneficial Uses
- Manage Residuals
 - Biosolids
 - Air Emissions and Odors

The Wastewater Path

- Infrastructure
 - Ages over time
 - Expensive to upgrade

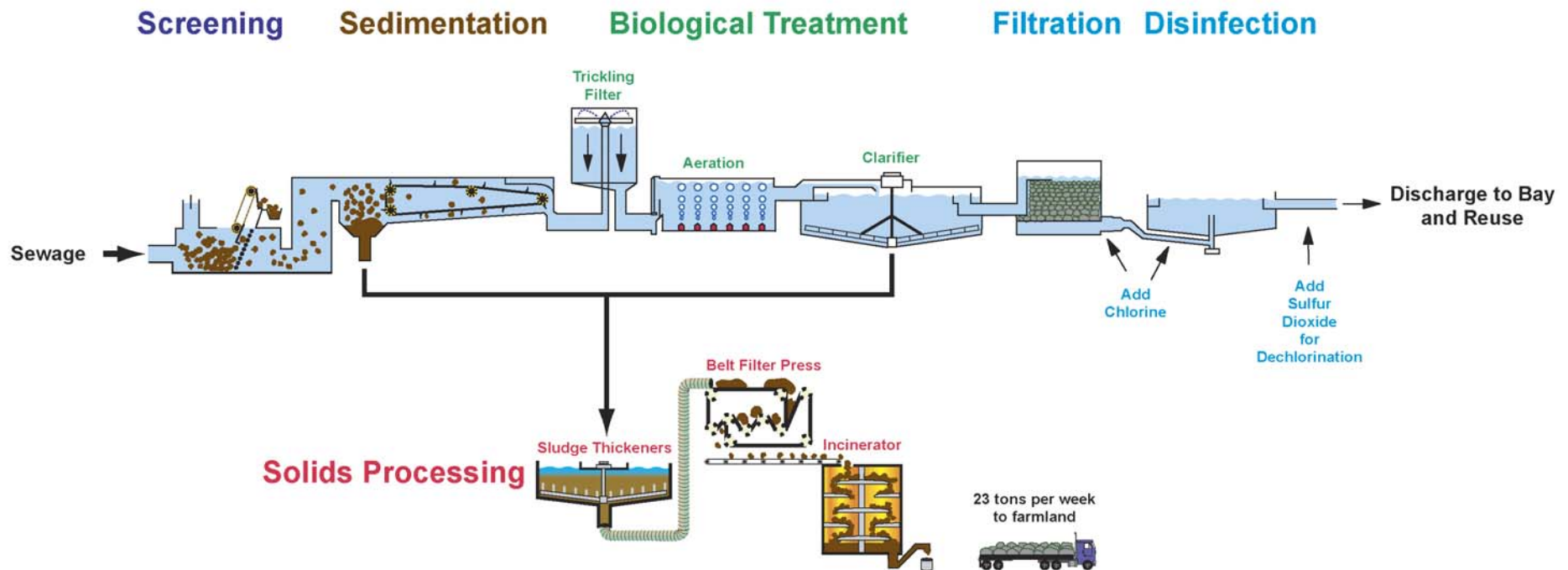


Discharged water

Wastewater Treatment Plant

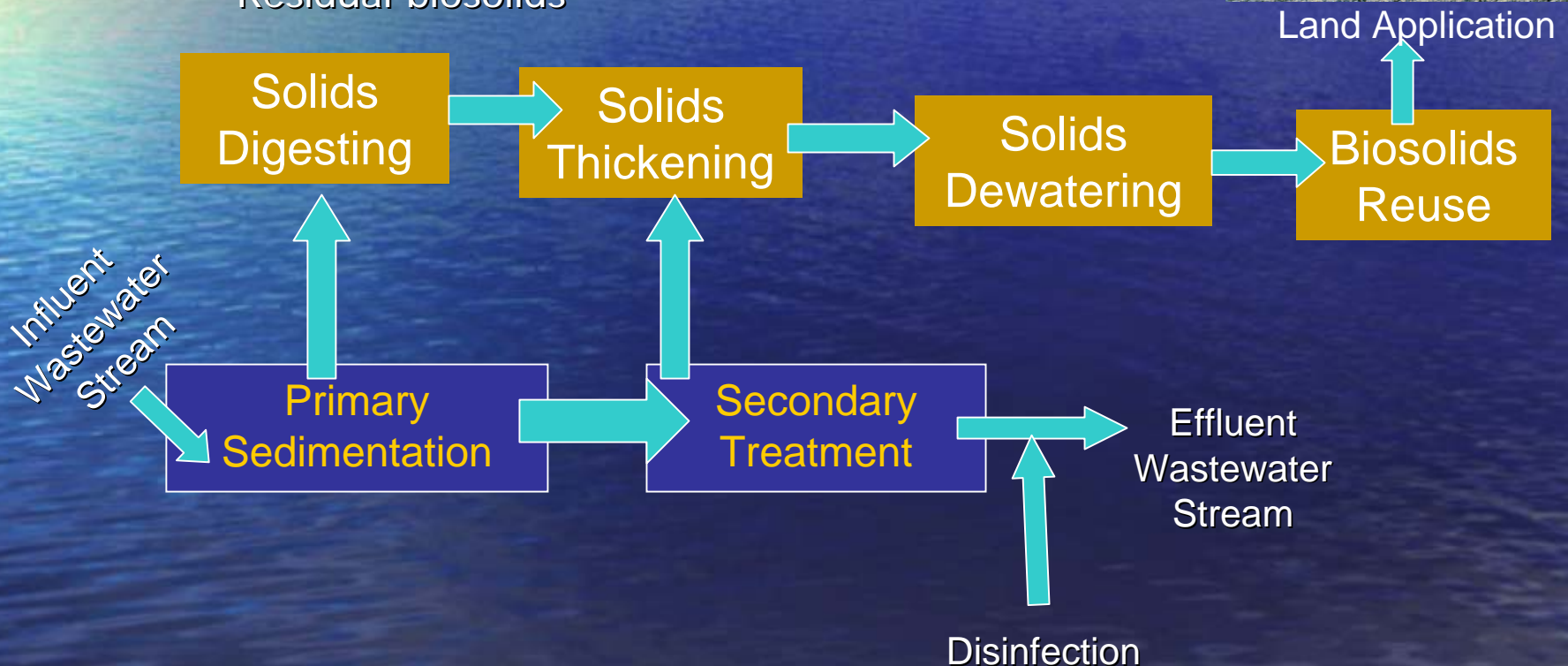


Wastewater Treatment Plant



Biosolids Treatment Process

- Treatment of solids
 - Anaerobic digestion
 - Stabilization of solids and capture of methane
 - Methane used to produce heat and energy
 - Residual biosolids



Pesticides in POTWs

Methods of entrance to POTWs

- Intentional introduction
 - Pesticides in drains for pest or root removal
 - Improper disposal
- Unintentional introduction
 - Washing or rinsing of fabrics or surfaces treated with pesticides
 - Excessive or Improper Use by Applicators
- Infiltration from storm water and groundwater into sewer lines

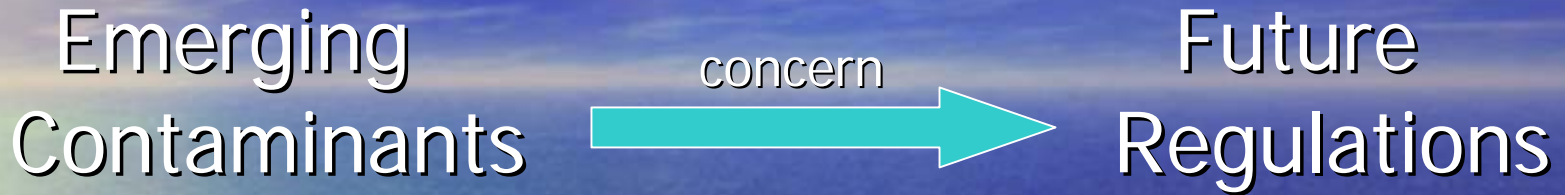
Pesticide Sources to Wastewater Treatment Plants



Enforcement Concerns

- Federal Enforcement - Clean Water Act (CWA)
 - EPA action for noncompliance – i.e. permit violations
 - Provisions for citizen suits
- State Enforcement – Regional Boards
 - Electronic Reporting of Data (CIWQS)
 - Mandatory Minimum Penalty (MMP) – requires a minimum fine of \$3,000 per violation (SB 709)
- TMDLs Issued by Regional Boards
 - Establishes Wasteload Allocations for POTWs
 - SF Bay has one for Legacy Pesticides
- Prevent today's pesticides from becoming future legacy pesticides

Future Regulations



- Consumer products of potential concern
 - Silver washing machines
 - Copper from impregnated clothing
 - Triclosan from hand soaps
 - Pyrethroids impregnated in clothing
- Household pest control

Pyrethroids Indoor Use

- Pet Fleas
- Impregnated Clothing (Buzz-Off Clothing)
- Ant & Cockroach Applications
- Mattress Treatment (Bedbugs)



Tri-TAC Success Stories

- Copper Root Killer (pure copper sulfate)
 - Copper limits in SF Bay Area – one use causes 20 million gallons of wastewater to exceed standards
 - Public Education Campaign
 - Began at a local level
 - DPR banned in 1996!



Lindane (1998)

- Toxicity testing violations
- TIE identified Lindane in head lice shampoo
- Eventual State legislation banned use in head lice and scabies treatment in 2002
- Lessons Learned
 - Pesticides may cause compliance problems
 - POTWs have Limited regulatory authority to control
 - Need DPR assistance

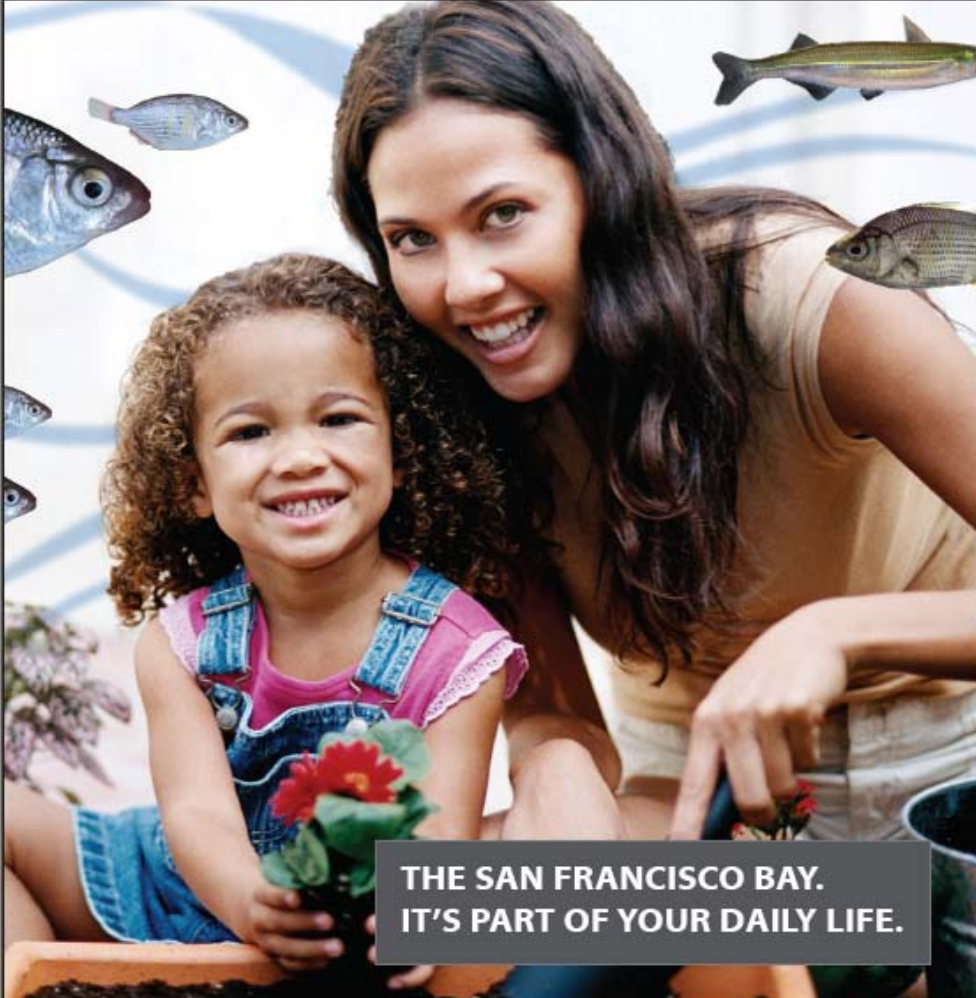
Samsung Silver Wash

- Would discharge ionic silver (a toxic metal) during wash and rinse cycles directly to the sewer
- Tri-TAC letters to EPA
- EPA Update: "the Samsung washing machine is a pesticide that requires registration"



Chlorpyrifos

- Effluent Toxicity Testing Violations
- Urban and Rural Stormwater Runoff Toxicity
- EPA Registration Review
 - Almost all residential use to end by 2005
 - Commercial and agricultural uses remain at reduced levels



THE SAN FRANCISCO BAY.
IT'S PART OF YOUR DAILY LIFE.

SO USE LESS-TOXIC GARDEN PRODUCTS. THEY'RE SAFER FOR YOU AND THE BAY.

It's no exaggeration that we live, work, and play in a watershed that flows to the Bay.

Most pesticides found in local creeks and the Bay are from residential yards. Using less-toxic pesticides and applying them when there is no danger of rain can greatly reduce pesticide pollution.



**LOOK FOR THIS SYMBOL FOR
BAY-FRIENDLY GARDEN PRODUCTS.**

Ask the Expert at www.ourwaterourworld.org for answers to your pest problems. Take a less-toxic pest control workshop. Call 650.329.2598.

www.cleanbay.org
WE'RE ALL IN IT TOGETHER



Seasonal ads
promoting
less-toxic pesticides

*From 2006 RWQCP
Clean Bay Campaign*



Promoting IPM

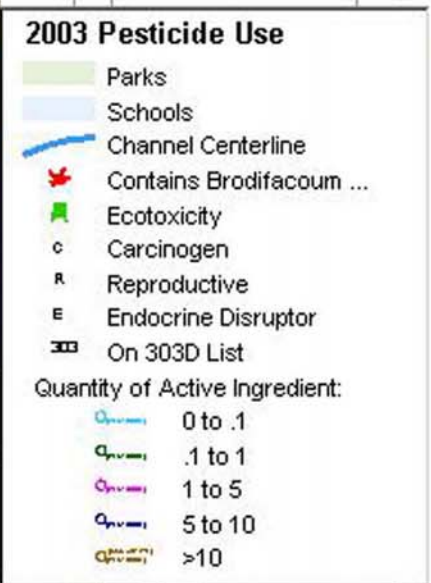
2003 Pesticide Use

Parks
 Schools
 Channel Centerline
 Contains Brodifacoum ...
 Ecotoxicity
 C Carcinogen
 R Reproductive
 E Endocrine Disruptor
 On 303D List

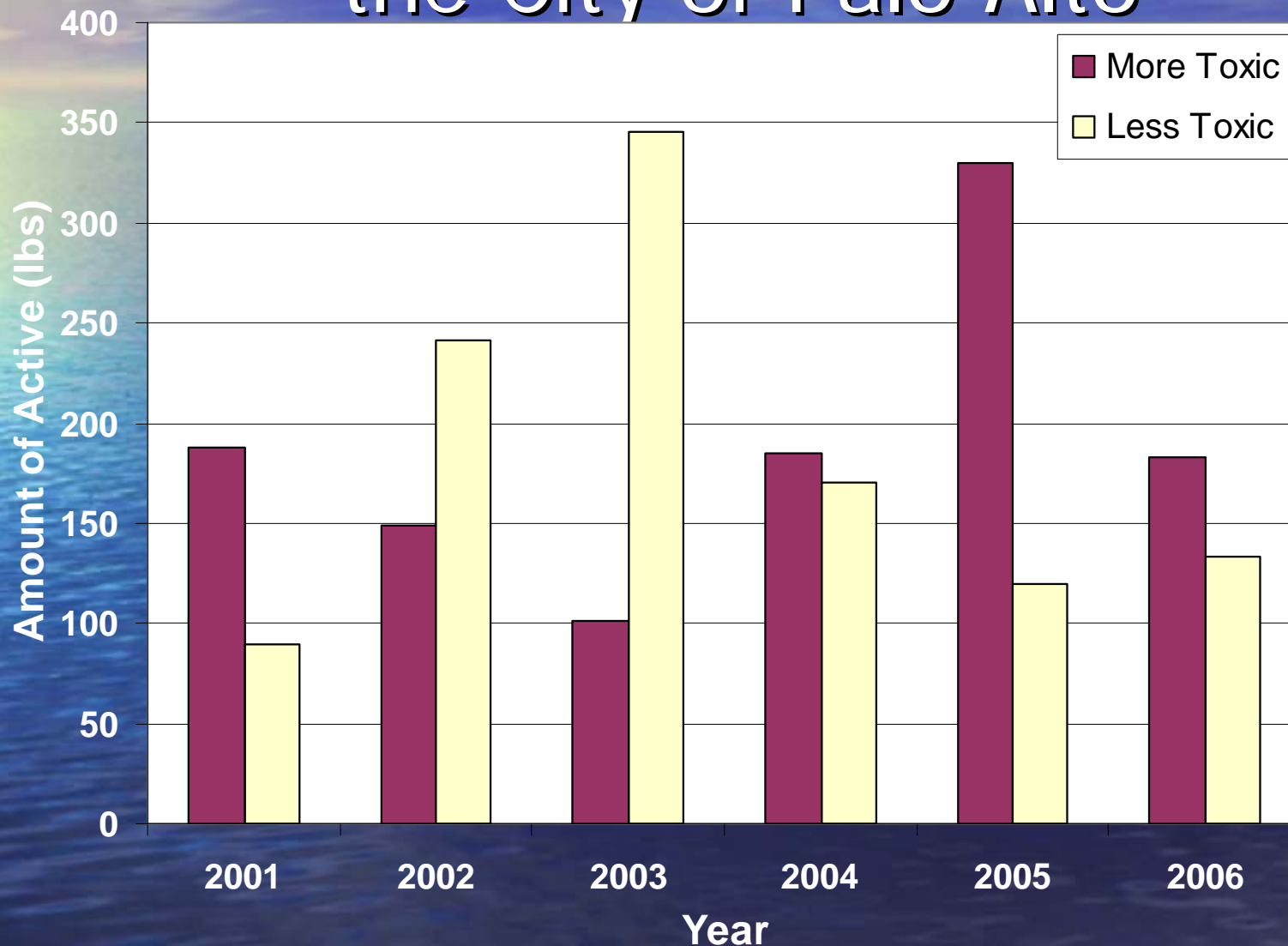
Quantity of Active Ingredient:

0 to .1
 .1 to 1
 1 to 5
 5 to 10
 >10

Generation Mini Blocks
 Maxforce (Granular) Professional Insect Control Granular Insect Bait
 Maxforce FC Professional Insect Control Ant Killer Bait Gel
 Drione Insecticide
 Combat Outdoor Ant Killing Granules
 TKO Prescription Treatment Brand Pressurized Diazinon Capsule Suspension



Amount of Pesticide Applied within the City of Palo Alto




Tri-TAC's Requests

- Estimate Removal Efficiency at Wastewater Treatment Plant
- Insure that Treated Wastewater meets standards
- Insure that Biosolids are not impacted

Summary

- Pesticides can become problems from a variety of sources
- POTWs are heavily regulated yet have limited ability to control pesticide inputs to our systems
- Wastewater treatment plants are not designed to remove pesticides
- POTWs must meet all Effluent Limits including Whole Effluent Toxicity
- Tri-TAC desires to partner and collaborate with DPR and other stakeholders



Thank You
Questions?